

L 12424-63

ACCESSION NR: AP3001161

values in benzene and carbon tetrachloride media, in which the polymer was soluble.
Orig. art. has: 3 figures.

ASSOCIATION: Moskovskiy khimiko-tehnologicheskiy institut im. D. I. Mendeleyeva
(Moscow Chemico-Technological Institute)

SUBMITTED: 07Dec61 DATE ACQ: 01Jul63 ENCL: 00

SUB CODE: 00 NO REF Sov: 005 OTHER: 001

Card 2/2

ACCESSION NR: AP4028545

S/0191/64/000/004/0020/0023

AUTHOR: Kerber, M. L.; Fedotova, O. Ya.; Losev, I. P. (Deceased)

TITLE: Radiation resistance of aromatic and arylaliphatic polyamides

SOURCE: Plasticheskiye massy*, no. 4, 1964, 20-23

TOPIC TAGS: aromatic polyamide, aliphatic polyamide, arylaliphatic polyamide, radiation resistance, gamma irradiation, thermomechanical property, molecular weight, specific viscosity, polyterephthalamide, cross linkage

ABSTRACT: The radiation resistance of aromatic, aliphatic, and arylaliphatic polyamides was investigated. The radiation resistance of polyamides (poly-p-phenyleneterephthalamide, poly-p-phenylene sebacinamide, polydiphenylmethaneterephthalamide, polyditolylmethaneterephthalamide and poly[N,N-dimethyl-(diphenylmethane)-terephthalamide]) was determined by the change in molecular weight (specific viscosity) and the thermomechanical properties under the effect of Co-60 gamma irradiation. The polyterephthalamides are most resistant

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to gamma radiation; they are also resistant to oxidative destruction at 200C. The predominance of the destruction processes shows up at different integral doses depending on the structure of the backbone of the aromatic polyamides. The parallel course of the processes of degradation and cross linking of polyamides by gamma radiation in air was thus confirmed. Exchanging the aromatic group of the amide for an aliphatic or arylaliphatic reduces the radiation resistance of the polymer. Orig. art. has: 4 figures

ASSOCIATION: None

SUBMITTED: 00

ATD PRESS: 3067

ENCL: 00

SUB CODE: OC, NP

NO REF SOV: 008

OTHER: 006

Card 2/2

ACCESSION NR: APL030360

8/0190/64/006/003/0452/0453

AUTHORS: Fedotova, O. Ya.; Kerber, M. L.; Losev, I. P. (Deceased)

TITLE: Some properties of aromatic and arylaliphatic polyamides prepared by interfacial polycondensation. 9

SOURCE: Vyssokomolekulyarnye soyedineniya, v. 6, no. 3, 1964, 452-458

TOPIC TAGS: polyamide, aromatic polyamide, arylaliphatic polyamide, N-alkylated polyterephthalamide, terephthalyl chloride, dinucleararomatic diamine, polycondensation, interfacial polycondensation, N-substituted polyamides, crystalline structure, solubility.

ABSTRACT: Synthesis of polyamides was conducted at 20C in an apparatus (provided with a fast stirrer), using a technique described in an earlier paper by the authors (Vyssokomolek. soed., 2, 1020, 1960). In the present study the aqueous phase contained 0.2 mole/liter of terephthalyl chloride and 1 equivalent of alkali, while the organic benzene phase contained 0.2 mole/liter of dinuclear aromatic diamines carrying an alkyl radical at the nitrogen atom. The physico-chemical properties of the obtained N-alkylated polyterephthalamides were investigated.

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They were found to have lower melting points and higher solubility in organic solvents. It was observed that an increased number of alkyl substituents at the nitrogen enhanced the solubility of the polyamides, while the length of the carbon chain was ineffective. The solubility of the polyamides in organic solvents made it possible to determine their molecular weight, which was 50 000 - 60 000, as compared with 10 000 - 12 000 for similar polymers prepared in the melt. X-ray studies revealed that the N-alkylated polyterephthalamines possessed a certain degree of orderliness in their structure, thus confirming their partially crystalline structure. Thanks are given to S. A. Pavlova and I. I. Tverdokhlebova for the determinations of molecular weights by the light-scattering technique. Orig. art. has: 1 table and 4 charts.

ASSOCIATION: Moscovskiy khimico-tehnologicheskiy institut im. D. I. Mendeleyeva
(Moscow Chemicotechnical Institute)

SUBMITTED: 04Mar63

DATE ACQ: 07May64

ENCL: 00

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NO REF Sov: 007

OTHER: 000

Card 2/2

(A) L 2547-66 EWP(m)/EWP(w) EM

ACCESSION NR: AP5023376

UR/0343/65/000/008/0034/0035
631.331.001.219
18
B

AUTHOR: Kerber, V. N.

TITLE: Strain gage devices for torque measurement 9M

SOURCE: Traktory i sel'khozmashiny, no. 8, 1965, 34-35

TOPIC TAGS: torque measurement, strain gage application, torque transducer /
SKRN 12B seed spreader, 2STSН 6 seed spreader

ABSTRACT: Since the construction of fertilizer-seed spreaders SKRN-12B and 2STSН-6 does not permit direct mounting of strain gages to study torque transmission, a special strain gage device was developed for torque measurements. It is based on a constant strain cantilever beam for which

$$\frac{M}{W} = \frac{6Pl}{bh^3} = \frac{6Px}{yR^3} = \text{const.}$$

i.e., by changing the beam width according to $y = b \frac{x}{l}$ a constant strain is obtained along the beam due to an applied load P. The corresponding strain and the percentage change of strain gage resistance ($\Delta R/R$) were evaluated. By mounting Card 1/3

L 2547-66

ACCESSION NR: AP5023376

4 strain gages as shown in Fig. 1 on the Enclosure in a half bridge circuit the applied load on the beam could be measured. This beam was used as shown in Fig. 1 to measure torque. The driven hub 6 is free to rotate on shaft 3 on which the calibrated beam 2 is mounted. The yoke on wheel 6 transmits the torque through the beam to shaft 3 and chain sprocket 4. The strain gage signals are transmitted through a mercury slip ring end assembly 1. The device was used successfully in measuring the torque transmission in two types of seed-spreaders. Orig. art. has: 4 figures and 6 formulas.

ASSOCIATION: Kubanskiy NIITIM (Kuban NIITIM)

SUBMITTED: 00

ENCL: 01

SUB CODE: IE

NO REF SOV: 002

OTHER: 000

Card 2/3

L 2547-66

ACCESSION NR: AP5023376

ENCLOSURE: 01

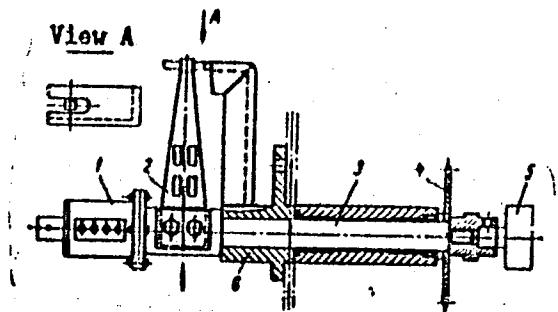


Fig. 1.
Strain gage torque transducer (nomenclature in text)

Card 3/3 Rev

RUBINSSTEIN, Yu.I.; ORLOVA, N.V.; BOGORODITSKAYA, V.P.; KUKEL', Yu.P.;
AKINCHEVA, M.Ya.; KERBER, Ye.V.

Hygienic studies on codfish treated with biomycin. Vop. pit. 19
no. 6:55-60 N-D '60. (MIRA 13:10)

1. Iz otdela gigiyeny pitaniya (zav. r dotsent B.D. Vladimirov)
Instituta pitaniya AMN SSSR, Moskva.
(FISH AS FOOD) (AUREOMYCIN)

RUBINSHTEYN, Yu.I. [deceased]; ORLOVA, N.V.; BOGORODITSKAYA, V.P.;
KUKEL', Yu.P.; AKINCHEVA, M.Ya.; KERBER, Ye.V.;
MOISEYENKO, V.Sh.

Hygienic evaluation of meat treated with antibiotics to prolong
the period of its preservation. Vop. pit. 22 no.3:51-55 My-Je '63.
(MIRA 17:8)

1. Iz otdela gigiyeny (zav. - dotsent B.D. Vladimirov) Instituta
pitaniya AMN SSSR i laboratorii antibiotikov (zav. - kand.
biolog. nauk V.I. Krasikova) Vsesoyuznogo nauchno-issledovatel'-
skogo instituta myasnoy promyshlennosti, Moskva.

KERBI, V.I., otvetstvennyy red.; BUSANKINA, N.G., red.; MAZEL', Ye.I.,
tekhn.red.

[New types of start-stop telegraph operations; a pamphlet of
special information] Novye tipy telegrafnykh startstopnykh
apparatov; informatsionnyi sbornik. Moskva, Gos. izd-vo lit-ry
po voprosam sviazi i radio, 1957. 50 p. (MIRA 11:5)

1. Moscow. TSentral'nyy nauchno-issledovatel'skiy institut
svyazi.
(Teletype)

KERBI, V. I.

PA 27T97

USSR/Telegraph Equipment
Telegraphy

Jan 1947

"New Multiple System Telegraph Apparatus for Radio
Communications," V. I. Kerbi, Engr, 3 pp

"Vestnik Svyazi - Klektrosvyaz" No 1 (82)

In recent years Soviet communications lines have been equipped with type T-19 start-stop apparatus, which has gradually replaced the Bodo. In the operation of this start-stop apparatus several difficulties arise, however, and the author explains some of these difficulties. Gives the circuit diagram of the T-19 and briefly explains its operation.

27T97

KERBIKOV, L., inshener.

Air conditioning in automobiles. Za rul. 15 no.2:15 F '57.

(Automobiles--Air conditioning)

(MLRA 10:5)

KERBIKOV, L.; VANKOV, V.

Pressure regulators for tires. Za rul. 17 no.2:17 P '59.

(MIRA 12:3)

1. Avtozavod imeni Likhacheva.
(Automobiles--Tires)

KERIKOV, O. V.

ZORINA, E. S., KERIKOV, O. V.

Narcotherapy of schizophrenia by intravenous drip of alcohol containing fluid. Nevropat. psikiat., Moskva 19:6, Nov.-Dec. 50.
p. 43-9

1. Yaroslavl'.

CLIL 20, 3, March 1951

KERBIKOV, O. V.

USSR/Medicine - Therapeutic Sleep, Jul/Aug 51
Narcosis

"Treatment With Prolonged Sleep Brought About by
Introducing Intravenously an Alcohol-Containing
Solution By the Continuous Drip Method," O. V.
Kerbikov, Ye. S. Zorina, Yu. A. Il'inskiy

"Nevropatol i Psichiat" Vol XX, No 4, pp 38-40

Describes clinical aspects of treating psychopathic patients by intravenous introduction of alc and technique of introducing a narcotic mix which has the following compn: sodium chloride 4.0, calcium chloride 1.0, glucose 25.0, distilled alc 60.0-120.0, distilled water up to 500.0.

190r58

KERBIKOV, O.V.

Problems in psychiatry according to the Pavlovian theory. Klin. med.,
Moskva 29 no.12:6-15 Dec 51. (CIML 21:4)

1. Professor. 2. Yaroslavl'.

KERBIKOV, O.V.; IL'INA, V.N.

Pathology of orientation in infectious psychoses; clinical illustration of one of pathophysiologic rules. Zh. vyshei nerv. deiat. 2 no. 2:224-227 Mar-Apr 1952.
(CLML 23:3)

1. Yaroslavl'.

KUBIKOV, O. V. ; IL'INA, V. N.

Insanity

Pathology of orientation in infection psychoses; clinical illustrations of a pathophysiological law. Zhur. vys. nerv. deiat. 2 no. 3, 1952.

Monthly List of Russian Accessions, Library of Congress, September 1952. Unclassified.

1. KERBIKOV, O. V.
2. USSR 600
4. Psychology, Physiological
7. Physiological theory of dreams. F. P. Mayorov. Reviewed by O. V. Kerbikov, Zhur. vys nerv. deiat, 2, No. 6, 1952.
9. Monthly List of Russian Accessions, Library of Congress, April 1953, Unclassified.

1. PROF. KERBIKOV, O. V.
2. USSR (600)
4. Psychiatry - Study and Teaching
7. Basic results of the discussion of the proposed program for a course in psychiatry.
Zhur.nevr.i psikh. No. 11 - 1952.
9. Monthly List of Russian Accessions, Library of Congress. March 1953. Unclassified

KEMEIKOV, O. V.

Psychiatry

Pavlov's era in psychiatry. Nauka i zhizn' 19 no. 4, 1950.

Monthly List of Russian Acquisitions, Library of Congress, July 1951. Unclassified.

"APPROVED FOR RELEASE: 06/13/2000

CIA-RDP86-00513R000721520013-0

KERBIKOV, O.V.

A page from the history of native psychiatry. Zh. Nevropat. Psichiat.,
'52, 52, no.1, 55-59.
(PsA 27, no.11:7510 '53) (MLRA 5:2)

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CIA-RDP86-00513R000721520013-0"

KERBIKOV, O. V;IL'INA, V. N.

Alleviated electrostimulation therapy in anesthesia. Zh. nevropat.
psichiat., Moskva 52 no.3:45-53 Mar 1952. (CLML 22:2)

I. Yaroslavl'.

KERZEN, O. V., ZODINT, Ye. S.,
IL'INSKY, Yu. A.

Blood - Analysis and Chemistry

Concerning Prof. Ye. Yu. Karu's remarks "On the determination of alcohol in the blood by the Vidmark method," Zhez. nevr. i psich. 52, no. 3, March 1952

Monthly List of Russian Acquisitions, Library of Congress, August, 1952. Unclassified.

KERBIKOV, O. V.

Certain disputable problems in psychiatry. Zh. nevropat. psichiat.,
Moskva 52 no.5:8-25 May 1952.
(CLML 22:2)

1. Professor. 2. On the necessity for the study of psychopathies
from the Pavlovian standpoint; continued investigation of schizo-
phrenia; role of heredity in mental diseases.

KERBIKOV, O.V. (Moscow); KRYLOV, D.N. (Moscow).

Experiment in the study of the ultra-paradoxal phase in the clinical aspect
of psychogenic reactions. Zhur.vys.nerv.deiat. 3 no.3:369-380 My-Je '53.
(MILIA 6:9)
(Nervous system--Diseases)

KERBIKOV, Professor O. V., Director of the Mental Clinic of the II Moscow Medical Institute imeni J. V. Stalin
"The Principles of Mental Hygiene and Prophylaxis and the State of the Mental Health of the Population of the USSR"

from Reports of the Members of the Soviet Delegation at the Fifth Congress On Mental Health Defense by O. V. Kerbikov, N. I. Ozaretskiy, A. V. Sneshevskiy
Moscow, Medgiz, 1954

KERBIKOV, O.V. (Moscow).

Most important characteristics of S.S.Korsakov's clinical trends.
Zhur.nevr.i psich. 54 no.2:110-116 F '54. (MLRA 7:3)
(Korsakov, Sergei Sergeevich, 1854-1900) (Psychiatry)

KERBIKOY, O. V. and FEDOTOV, D. D.

"Origins of Soviet Forensic Psychiatry," Zhur. Nevr. i Psich. im. Korsakov, Vol.,
54, No.7, p 583-89, 1954.

Translation M-633, 13 July 1955

KERBIKOV, O.V., & FEDOTOV, D.D. (Moskva)

Source material on Russian forensic psychiatry. Zhur. psich. 54 no.7:583-589 Jl '54.
(PSYCHIATRY, history,
*Russia, forensic aspects)
(JURISPRUDENCE, MEDICAL, history,
*Russia, psychiat. aspects)

USSR

KERBIKOV, O.V. (Moskva)

Theoretical and practical problems in the prevention of psychical
diseases. Zhur.nevr. i psikh. 54 no.8:611-617 Ag '54. (MLRA 7:9)
(MENTAL DISORDERS, prevention and control,
Russia)

KERBIKOV, O.V.

[Lectures in psychiatry; selected chapters] Lektsii po psi-
khiatrii; izobrannye glavy. Moskva, Medgiz, 1955. 237 p.
(Psychiatry) (MLRA 8:6)

FRUMKIN, Ya.P.

Lectures on psychiatry* delivered to students of the Dept.
of Therapeutics of the Second Moscow Stalin Medical Institute
during the fall semester 1952/53; selected chapters. O.V.
Kerbikov. Reviewed by Ia. P. Frumkin. Zhur.nevr. i psich.
55 no.11:869-870 '55. (MLRA 8:11)
(PSYCHIATRY) (KERBIKOV. O.V.)

ZHARIKOV, N.M.; IL'INSKIY, Yu.A.; KERBIKOV, O.V.; MATVEYETS, L.S.

Data on immunological reactivity in schizophrenia. Zhur.nevr. i psikh.
56 no.8:612-621 '56. (MLRA 9:11)

1. Kafedra psichiatrii II Moskovskogo meditsinskogo instituta (zav. -
prof. O.V.Kerbikov) i laboratoriya tulyaremii (zav. - prof. N.G.
Olsuf'yev) Instituta epidemiologii i mikrobiologii imeni N.F.Gamalei
AMN SSSR, Moskva.
(SCHIZOPHRENIA, immunology,
(Rus))

KERBIKOV, O. V. (Moskva)

Emil Kraepelin and problems of nosology in psychiatry. Zhur.nevr. i
psikh. 56 no.12:925-936 '56.
(PSYCHIATRY
contributions of Emil Kraepelin)
(KRAEPELIN, EMIL, 1856-1926)

MATVEYETS, L.S.; OLSUV'YEV, N.G.; IL'INSKIY, Yu.A.; ZHARIKOV, N.M.;
KSRBIKOV, O.V.

Studies on the immunological reactivity of the organism following
vaccination against tularemia in subjects with modification of the
central nervous system. Zhur.mikrobiol.epid. i immun. 28 no.9:
46-51 S '57.
(MIRA 10:12)

1. Iz Instituta epidemiologii i mikrobiologii N.F.Gamalei AMN SSSR
i II Moskovskogo meditsinskogo instituta.
(CENTRAL NERVOUS SYSTEM, diseases,
eff. on immunol. reactivity to tularemia vacc. (Rus))
(TULAREMIA, prevention and control,
vacc., eff. of CNS dis. on immunol. reactivity (Rus))

KERBIKOV, O. V.

[Textbook of psychiatry] Uchebnik psichiatrii. Moskva, Medgiz,
1958. 366 p. (MIRA 11:6)
(PSYCHIATRY)

KERBIKOV, O.V. (Moskva)

Problems of psychopathies in the history of medicine, Report No.2:
History of the development of theories on psychopathies in the 19th
century. Zhurnevr. i psikh. 28 no.9&1130-1137 '58 (MIRA 11:11)
(PSYCHIATRY, history
(Eng))

KERBIKOV, O.Ye. (Moskva)

Problem of psychopathies in a historical light; forensic processes in
the eighties and teaching about psychopathies in national literature.
Zhurnevr. i psikh. 58 no.8:995-1006 '58 (MIRA 11:9)
(INSANITY, history
in Russia (Rus))

KERBIKOV, O.V. (Moskva)

Problem of psychopathies in the light of history. Report No.3:
Psychopathies in P.B. Gannushkin's works. Zhur.nevr. i psich.
58 no.10:1253-1258 '58 (MIRA 11:11)
(PSYCHIATRY, history,
contribution of P.B. Gannushkin (Rus))
(BIOGRAPHIES,
Gannushkin, P.B (Rus))

KERUBIKOV, O.V. (Moskva)

In memory of V.A.Giliarovskii. Klin.med. 37 no.7:154-155
Jl '59. (MIRA 12:10)
(GILIAROVSKII, VASILII ALEKSEEVICH, 1875-1959)

"APPROVED FOR RELEASE: 06/13/2000

CIA-RDP86-00513R000721520013-0

KERBIKOV, O.V.; GINDIKIN, V.Ya.

Psychopathies as a clinical problem. Zhur.nevr.i psikh. 60 no.1:
61-76 '60.
(MENTAL ILLNESS)

(MIRA 13:6)

APPROVED FOR RELEASE: 06/13/2000

CIA-RDP86-00513R000721520013-0"

KERBIKOV, O.V.

Immunological reactivity in schizophrenia and the effect
on it of contemporary therapeutic substances. Vest. AMN
SSSR 17 no.1:36-43 '62. (MIRA 15:3)
(SCHIZOPHRENIA) (IMMUNOLOGY)
(PSYCHOTROPIC DRUGS)

KERBIKOV, O.V.; ROKHLIN, L.L. (Moskva)

History of the theory of psychopathies (S.S.Korsakov's conclusion
on the work of P.Kachka). Zhur.nevr.i psikh. 61 no.10:1560-1573
'61. (MIRA 15:11)

(PSYCHIATRY) (MENTAL ILLNESS)

KERBIKOV, O.V.

Doctrine of the dynamics of psychopathy. Prob.sud.psikh.10:
5-32 '61. (MIRA 16:7)
(PSYCHOLOGY, PATHOLOGICAL)

MOROZOV, G.V., otv. red.; BABAYAN, E.A., red.; BOGOLEPOV, N.K., red.;
GORDOVA, T.N., red.; ZHARIKOV, N.M., red. KERBIKOV, O.V.,
red.; ROZHNOV, V.Ie., redaktor; SLUCHENSKIY,
I.F., red.; SNEZHNEVSKIY, A.V., red.; FEDOTOV, D.D., red.;
SHOSTAKOVICH, V.V., red.; BOGDANOVICH, L.A., red.

[Current problems of psychiatry and neuropathology] Aktual'nye
voprosy psichiatrii i nevropatologii. Moskva, Izd-vo M-vn
zdravookhraneniia SSSR, 1963. 400 p. (MIRA 16:10)
(PSYCHIATRY)
(NERVOUS SYSTEM—DISEASES)

"APPROVED FOR RELEASE: 06/13/2000

CIA-RDP86-00513R000721520013-0

KERBIKOW, O.W.

Schizophrenia as a nosological problem. Neurol. neurochir.
psychiat. pol. 13 no.2:241-256 '63.

(SCHIZOPHRENIA)

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CIA-RDP86-00513R000721520013-0"

"APPROVED FOR RELEASE: 06/13/2000

CIA-RDP86-00513R000721520013-0

KERBIKOV, G.V.

Some clinical problems in the sphere of "minor" psychiatry.
Probl. obshchel i sud. psikh. no.14:7-17 '63.

(MIRA 18:9)

APPROVED FOR RELEASE: 06/13/2000

CIA-RDP86-00513R000721520013-0"

KERBIKOV, O.V.

Results of the discussion on the problem of causality in
medicine. Vest. AMN SSSR 18 no.2:93-95 '63. (MLRA 1727)

GANNUSHKIN, Petr Borisovich; KERBIKOV, O.V., prof., red.;
LUKOMSKIY, I.I., red.

[Selected works] Izbrannye trudy. Moskva, Meditsina, 1964.
290 p.
(MIRA 17:8)

1. Deystvitel'nyy chlen AMN SSSR (for Kerbikov).

KERBIKOV, O.V. (Moskva)

Multiplicity of causes (polyetiology) in medicine. Vest. AMN
SSSR 19 no.1:9-14 '64.
(MIRA 17:7)

KERBIKOV, O.V.

Study on psychopathies in the works of S.S. Korsakov's
school. Trudy 1-go MMI 34:26-35 '64. (MIRA 18:11)

"APPROVED FOR RELEASE: 06/13/2000

CIA-RDP86-00513R000721520013-0

KERBIKOV, O.V. (Moskva)

Microsociology, concrete sociological studies and psychiatry.
Vest. AMN SSSR 20 no.1:7-16 '65. (MIRA 18:4)

APPROVED FOR RELEASE: 06/13/2000

CIA-RDP86-00513R000721520013-0"

BANSHCHIKOV, V.M., zasl. deyatel' nauki, prof., glav. red.; ROKHLIN, L.L., prof., zam. glav. red.; SHMIDT Ye.V., prof., red.; KERBIKOV, O.V., prof., red. (deceased); MYASISHCHEV, V.N., zasl. deyatel' nauki prof., red.; FELINSKAYA, N.I., prof. red.; MIKHEYEV, V.V., prof., red.; FEDOTOV, D.D., prof., red.; BABAYAN, E.M., red.; MOROZOV, G.K., doktor med. nauk, red.; SEREBRYAKOVA, Z.N., kand. med. nauk, red.; USHAKOV, G.K., doktor med.nauk, red.; SNEZHNEVSKIY, A.V., prof., red.

[Transactions of the 4th All-Union Congress of Neuro-pathologists and Psychiatrists] Trudy Vsesoiuznogo s"ezda nevropatologov i psikiatrov. M'skva, Vses.nauchn. med. ob-vo nevropatologov i psikiatrov. Vols.1, 5-6. 1965.

(MIR 18:11)

1. Vsesoyuznyy s"yezd nevropatologov i psikiatrov. 4th, Moscow, 1963. 2. Deystvitel'nyy chlen AMN SSSR (for Shmidt, Kerbikov, Snezhnevskiy).

ACC NR: AM6032370

Monograph

UR/

Boyarchenkov, Mikhail Aleksandrovich; Kerbinov, Fedor Ivanovich; Rayev
 Vyacheslav Konstantinovich; Rozenblat, Moisey Aronovich

Impulse regulators on contactless magnetic elements (Impul'snyye regulatory na beskontaktnykh magnitnykh elementakh) Moscow, Izd-vo "Energiya", 1966. 119 p. illus., biblio. 16,000 copies printed.

Series note: Biblioteka po avtomatike, vyp. 186

TOPIC TAGS: summing amplifier, contactless relay regulator, impulse regulator, magnetic amplifier, electric relay

PURPOSE AND COVERAGE: This booklet is intended for engineers, technicians, and advanced students in the field of automation. The booklet discusses the fundamentals of contactless proportional plus-differential, proportional plus-integral, and proportional plus-differential plus-integral relay controllers with magnetic elements. Recommendations are given for the selection of separate regulator elements along with the circuit diagrams and basic technical characteristics of these elements. Results of investigations concerning the contactless proportional plus-integral relay controller with magnetic amplifiers and contactless mag-

Card 1/2

ACC NR: AM6032370

APPROVED FOR RELEASE: 06/13/2000

CIA-RDP86-00513R000721520013-0"

netic relays are described in detail. No personalities are mentioned. There are 16 references: 13 Soviet and 3 non-Soviet.

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- 1. Structural circuit diagrams of the regulators -- 6
- 2. Operating principles of the simplest relay regulator -- 13
- 3. General requirements for relay regulators -- 18

Ch. II. Elements of contactless relay regulators -- 23

- 4. Summing amplifiers
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- 6. Inertial feedback unit -- 61
- 7. Executive unit -- 82

Ch. III. Contactless relay regulators using magnetic elements -- 88

- 8. Periodical plus-integral regulator with a thermal bridge in the feedback network -- 89
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SUB CODE: 09/ SUBM DATE: 22Apr66/ ORIG REF: 013/ OTH REF: 003/
 Card 2/2

SOV/2-58-8-2/17

AUTHORS: Kerbitskaya, N. V., Arlova, M. I., Mesorova, V. N.,
Smirnov, Ye. I., Shlaim, I. B.

TITLE: **Industrial Experiment in Replacing Sodiumsulphate by Astrachanite
in the Melting of Glass (Promyshlennyj opyt zameny sul'fata
natriya astrakhaniotom pri varke stekla)**

PERIODICAL: Steklo i Keramika, 1958, Nr 8, pp. 3 - 5 (USSR)

ABSTRACT: The possibilities of using astrachanite in the melting of glass were investigated at the Institute of Glass (Institut stekla) by S. Ya. Raf in 1940 ~ 1953, as well as at the Belorussian Polytechnical Institute (Belorusskiy politekhnicheskiy institut) by A. A. Gezburg in 1941. Besides, the All-Union Institute of Metallurgy (Tsersouznyj institut galur-gii) carried out investigations on the working up of astrachanite from 1947 to 1954. The great attention which was attracted by this mineral may be explained by the fact that huge deposits may be found in the area of the Aral and Caspian Seas (Aral'skoye i Kaspiyskoye morya), the lower Volga (Nizhnyaya Volga) and at a number of other places. The fol-

Card 1/3

SOV/72-58-8-2/17

Industrial Experiment in Replacing Sodiumsulphate by Astrachanite in the Melting of Glass

lowing formula holds for the composition of astrachanite:
 $A = 278x/(100 + B)$, where x denotes the percentage of Mg_2O_4 and B the percentage of H_2O . Earlier papers showed that astrachanite may be used only after its homogeneity had been improved (Ref 1). At the end of 1954 a working team of the Institute of Glass together with the collective of the Krasnousol'sk glass factory carried out a continuous experiment of glass melting in a tank furnace with astrachanite. More than 400 t of this mineral were used. Its chemical composition and the sample taking are given and described. Its working up was carried out according to scheme (Fig.), and this process is then described in detail. By the introduction of astrachanite into the charge the properties of glass melting are not changed. The comparative data concerning work may be seen from Table 2. I. G. Druzhinin (Ref 2) showed in his paper that astrachanite melts at a temperature of 670°.

Conclusions:

- 1) Astrachanite may be used to replace sodiumsulfate.
- 2) This increases a little the costs of the charge.
- 3) To use this material successfully a respective preparation must be organized at its place of finding.

Card 2/3

New Tasks and a New Orientation of Our Periodical

SOV/72-58-8-1/17

glass and ceramics. Finally it is stated that the reorganization and improvement of the periodical cannot be solved by the editors alone. It needs the active participation of collaborators in the glass and ceramic industry.

1. Glass industry--USSR 2. Ceramic materials--USSR 3. Periodicals

Card 3/3

ELYUTIN, Yu.S.; SAMOYLOVICH, B.I.; KERBITSKII, B.N.; LYAPINA, I.I.

Economic effectiveness of the use of a BU-1 vapor tension controller
in a system for stabilizing gasoline. Izv.vys.ucheb.zav., neft' i
gaz 7 no.4:104-104 '64. (MIHA 17:5)

I. Azerbaydzhan'skiy institut nefti i khimii imeni Aszbekova i
Nauchno-tekhnicheskoy i proyektnoy institut po kompleksnoy
avtomatizatsii proizvodstvennykh protsessov v neftyanoy i
khimicheskoy promyshlennosti.

KERBITSKIY, N.V.

Revise the specifications for machine felting. Bum.prom. [38]
no.7:21 Jl '63. (MIRA 16:8)

1. Serpukhovskaya bumazhnaya fabrika.
(Papermaking machinery) (Textile industry—Specifications)

KERBITSKIY, N.V.

Six-cylinder contact dryer for thin sheet cardboard. Bum. prom.
38 no.11:26-27 N '63. (MIRA 17:1)

1. Nachal'nik proizvodstvenno-tehnicheskogo otdela
Serpukhovskoy bumazhnoy fabriki.

K.F.D.
CZECHOSLOVAKIA / Analytical Chemistry. General Problems. E

Abs Jour: Ref Zhur-Khimiya, No 16, 1958, 53348.

Author : Kerbl, Vydra.

Inst : Not given.

Title : Metalochromic Indicators. IV. The Problems of
the Preparation and the Properties of Calcein.

Orig Pub: Chem. listy, 1957, 51, No 8, 1457-1461.

Abstract: The properties were studied of a bis-di (carboxymethyl) amino methyl fluorescein (I) which under the name of calcein has been recommended as an indicator for complexometric determinations of alkaline earth metals. It is suggested that the Na salt of I (prepared by a modified procedure) be named as the fluoresceine complexone. The pure Na salt of I is in the form of orange-red small crystals, which are not soluble in alcohol and are

Card 1/5

34

CZECHOSLOVAKIA / Analytical Chemistry. General Problems. E

Abs Jour: Ref Zhur-Khimiya, No 16, 1958, 53348.

Abstract: soluble in 2-3 parts of water. By spectrophotometric and fluorometric methods it was established that I does not possess the properties of a colored metalochromic indicator but instead has the properties of a fluorescing indicator. Diluted solutions of I exhibit a strong yellow-green fluorescence. In alkaline solutions the fluorescence declines and in 0.025 N solutions of NaOH disappears entirely. The Ca^{2+} , Sr^{2+} , Ba^{2+} , Cu^{2+} , Al^{3+} , Zn^{2+} (and at < 0.1 N NaOH solutions Mg^{2+} ions as well) cause a reappearance of the fluorescence, whereby the red color of the solution remains unchanged. I

Card 2/5

CZECHOSLOVAKIA/Analytical Chemistry. Analysis of Organic Compounds.

E

Abs Jour: Ref Zhur-Khimiya, No 21, 1958, 70616.

introduction (into the combustion pipe) of an additional layer of lead suboxide-oxide (II) on pumice on top of the layer consisting of decomposition product of I. By such packing a combustion of the substance and the entrapping of F takes place at 550°C. The layer of II is prepared by mixing (in a ratio 3:1) a washed and dried (at 105° C) commercial II with calcined pumice (granular of 0.5 - 1 mm) and moistened with distilled water. For a microdetermination (3-4 mg of sample) a tube made from a supermax glass, was used, with a length of 30 cm and diameter of 10 mm. The tube was filled in the following sequence starting from the end attached to the adsorbing apparatus:

Card : 2/4

KERBLAY, S. A.

YEAR/Engineering
Power Transmission, Electric
Peat - Production

Sep 1947

"The Selection of Voltages for High-voltage Circuits
of Peat Digging Undertakings," S. A. Kerblay, 3 pp

"Tsvyannaya Promyshlennost'" No 9

There is a movement afoot to change the voltage in
peat undertakings from 2- and 3-kv to 6-kv. Until
recently, however, this higher voltage resulted in
many difficulties until the development of the new
Type BAMO electric motor. The author discusses
the fact that substations are necessary if the source
electrical power is far removed from the place where
23746

YEAR/Engineering (Contd.)
Power Transmission, Electric
Peat - Production

Sep 1947

it is being used. The author states that it may be
possible to increase this voltage to 10 kv with the
present equipment now in use. In that event, how-
ever, it would be most important to make use of
substations.

23746

KERBLAY T. S.

6(4)

PHASE I BOOK EXPLOITATION SOV/2315

Leningrad. Nauchno-issledovatel'skiy institut zemnogo magnetizma,
ionosfery i rasprostraneniya radiovoln

Radioprognoz na 1958 god, ch. 1. Nastavleniye k pol'zovaniyu
godovym radioprognozom, ch. 2. Karty izoplet maksimal'nykh
primenimykh chastot i naimen'shikh primenimykh vysokikh chastot
(Radio Propagation Forecast for 1958, pt. 1. Instructions for
Using Annual Radio Forecasts, pt. 2. Isopleths Showing Maximum
Usable Frequencies and Minimum Usable High Frequencies) Moscow,
Gidrometeoizdat (otd-niye), 1957. 150 p. 1,000 copies printed.

Additional Sponsoring Agency: USSR. Ministerstvo svyazi.
Ed.: T.S. Kerblay; Tech. Ed.: I.M. Zarkh.

PURPOSE: This collection of isopleth charts may be useful to en-
gineers and physicists concerned with radio propagation fore-
casting.

Card 1/6

APPROVED FOR RELEASE: 06/13/2000 CIA-RDP86-00513R000721520013-0"

Radio Propagation Forecast (Cont.)

SOV/2315

COVERAGE: The book contains a number of isopleth charts of maximum usable frequencies (MPCh) and minimum usable high frequencies (NPVCh). The purpose, accuracy and use of the forecast are briefly discussed and examples of determining maximum usable frequencies and minimum usable high frequencies for a given month and year are given. No personalities are mentioned. There are no references.

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Radio Propagation Forecast (Cont.)

SOV/2315

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Radio Propagation Forecast (Cont.)

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SOV/2315

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JP/ec
10-15-59

6(4)

PHASE I BOOK EXPLOITATION SOV/2260

Kerblay, Tamara Semenovna

Radioprognozy i ikh sostavleniye (Radio Forecasts and Their Compilation) Moscow, Svyaz'izdat, 1958. 38 p. (Series: Lektsii po tekhnike svyazi) Errata slip inserted. 11,500 copies printed.

Sponsoring Agency: Ministerstvo svyazi SSSR. Tekhnicheskoye upravleniye.

Resp. Ed.: L.I. Karyakin; Ed.: E.M. Broyt; Tech. Ed.: L. Sh. Bereslavskaya.

PURPOSE: This brochure is intended for persons dealing with or interested in ionospheric propagation for shortwave communication purposes.

COVERAGE: The methods of radio forecasts presented by the author result from experience gained at the Nauchnoissledovatel'skiy institut zemnogo magnetizma, ionosfery i rasprostraneniya radiovoln (NIZMIR) Ministerstva svyazi SSSR (Scientific Research

Card 1/3

Radio Forecasts and Their Compilation

SOV/2260

Institute of Terrestrial Magnetism, Ionosphere and Wave Propagation of the Ministry of Communications, USSR). The brochure consists of a reprint of a lecture delivered by the author and it contains information on periodic changes occurring in the ionosphere and on the conditions of shortwave propagation. These are the fundamentals on which long-term radio forecasting methods are based. A short description of these methods and of their accuracy is given. The principal types of long-term radio forecasts and their purpose are investigated. The author concludes that methods used by the NIZMIR need some improvement; in particular, the ionosphere above the Arctic, Antarctic and Equatorial zones ought to be better investigated. This is included in the IGY program. The methods of calculating the maximum frequency which can be reflected from the ionospheric layer at a given transmission range and the minimum frequency which can secure communication on a given line must be improved through further theoretical investigation. No personalities are mentioned. There are no references.

Card 2/3

Radio Forecasts and Their Compilation

SOV/2260

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AVAILABLE: Library of Congress (QC661.K45)

JP/ec

10-8-59

Card 3/3

PHASE I BOOK EXPLOITATION

Sov/3356

Academya nauk SSSR. Naukovedcheskuyu Institut po prosvetleniyu iuchebno-izdatel'stvenno-gosudarstvennogo fonda. V razdel programmy N003: Ionosfera. Isledovaniya ionosfery (Ionospheric Research) Moscow, Izd-vo AN SSSR, 1960. 112 p. (Series: It's Sbornik statey, N. 5) 2,000 copies printed.

Resp. Ed.: G.M. Gorbatikh, Candidate of Physics and Mathematics; Ed.: A.D. Podol'skiy; Tech. Ed.: F.V. Polyakova.

PURPOSE: This publication is intended for geophysicists, meteorologists, and communications specialists.

CONTENTS: This collection of 12 articles on the ionosphere, published by the Soviet IOT Committee, presents some of the results of vertical soundings made at 23 Soviet stations in the period 1957-1959. Individual articles deal with the geographic distribution of ionospheric absorption and its relation to solar flares and magnetic storms, the altitudinal distribution of ionization calculated with electronic computers, and ionospheric observations in the Arctic and Antarctic. An English review accompanies each article. No personalities are mentioned. References follow individual articles.

Partiale, T.M. Dependence of the Maximum Frequencies of the Sporadic E Layer on the Characteristics of the Ionosonde System 50
Chandarov, S.S. Sporadic E Layer According to Observations in Middle Latitudes 61

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Rubin, O.V. Ionospheric Observations on board the Motor Ship "Kalinin" During the Voyage to the Antarctic 100

Saitsev, V.B. Preliminary Results of Testing an Aircraft Ionospheric Station 106 In the Arctic

AVAILABILITY: Library of Congress

(6)
JA/Jan/1979
7-28-61

card 1/4

KERBLAY, T.S.

PHASE I BOOK EXPLOITATION SOV/5743

Akademiya nauk SSSR. Mezhdunarovodstvennyy komitet po provedeniyu Mezhdunarodnogo geofizicheskogo goda. V. razdel programmy MGG: Ionosfera.

Issledovaniya ionosfery; sbornik statey (Ionospheric Researches; Collected Articles. No. 3) Moscow, Izd-vo AN USSR, 1960. 100 p. 2,000 copies printed.

Resp. Ed.: N. V. Mednikov, Candidate of Physics and Mathematics;
Ed.: L. A. Trofimova; Tech. Ed.: T. V. Polyakova.

PURPOSE : This IGY publication is intended for geophysicists, astrophysicists, and other scientists concerned with the ionosphere and radio atmospherics.

COVERAGE: The collection of articles contains the results of investigations on the ionosphere and radio atmospherics, based chiefly on IGY observational data from USSR stations. The articles may be grouped into the three following categories:

Card 1/5

Ionospheric Researches; Collected (Cont.)

SOV/5743

1) studies of the morphology and physics of both quiet and perturbed ionospheres; 2) methodology of evaluating absorption and drifts in the ionosphere; and 3) questions on the use of ionospheric observations for practical purposes. No personalities are mentioned. English abstracts and references follow each article.

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APPROVED FOR RELEASE: 06/13/2000 CIA-RDP86-00513R000721520013-0"
 Ionospheric Researches; Collected (Cont.) SOV/5743

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29500
S/035/61/000/009/034/036
A001/A101

9.9130 (1046)

AUTHORS: Kerblay, T.S., Kovalevskaya, Ye.M.

TITLE: Correlation of $f_o F_o$ with indices of solar activity

PERIODICAL: Referativnyy zhurnal. Astronomiya i Geodeziya, no. 9, 1961, 6⁴, abstract 9A554 (V sb. "Issled. ionosfery", no. 3, Moscow, AN SSSR, 1960, 22 - 26, Engl. summary)

TEXT: The authors analyzed the correlation of $f_o F_o$ with the number of sun-spots R and intensity of solar radio emission on decimeter wavelengths I. Correlation coefficients and correlation ratios were calculated. Analysis was performed separately for the epochs of high and low solar activities. It was established that a period of high solar activity is characterized not only by the change of the regression coefficient, but also by a reduced degree of relation between $f_o F_o$ and solar indices. The conclusion is drawn that index I has no advantages in comparison with index R for estimating median values of $f_o F_o$.

T. Kerblay

[Abstracter's note: Complete translation] X

Card 1/1

S/169/61/000/010/047/053
D228/D304

AUTHOR: Kerblay, T. S.

TITLE: The dependence of the limiting frequencies of the E_s^- sporadic layer on the apparatus characteristics

PERIODICAL: Referativnyy zhurnal, Geofizika, no. 10, 1961, 32,
abstract 10G192 (V sb. Issled. ionosfery, no. 5, M.,
AN SSSR, 1960, 50-63)

TEXT: Several models of the layer (the linear layer, the thin layer, the layer with a sharp ionization gradient, the layer with heterogeneities) convenient for the approximation of different types of E_s were examined. The relation of the coefficient of reflection to the frequency was analyzed for each of them, and an estimation was made for the dependence of $f_0 E_s$ on the apparatus characteristics. The theoretical calculations satisfa-

Card 1/2

The dependence of...

S/169/61/000/010/047/053
D228/D304

torily agree with the data on the rate of change of the coefficient of reflection with the frequency resulting from the analysis of the $f_0 E_s$ - $f_b E_s$ differences for various types of E_s , and also with the material obtained as a result of the processing of ionograms with a different reinforcement by data about the dependence of different types of $f_0 E_s$ on the receiver's amplification. Abstracter's note: Complete translation.

Card 2/2

8/035/61/000/010/023/034
A001/A101

9,9110

AUTHOR: Kerblay, T.S.

TITLE: Some peculiarities in geographic distribution of critical frequencies of the F-layer during high solar activity

PERIODICAL: Referativnyy zhurnal, Astronomiya i Geodeziya, no. 10, 1961, 60, abstract 10A426 (V sb. "Issled. ionosfery", no. 5, Moscow, AN SSSR, 1960, 74 - 80, Engl. summary)

TEXT: The geographic distribution of f_0F_2 is analyzed on the basis of materials from the world network of ionospheric stations during the period from July 1957 to December 1958. Position and magnitude of extrema in various seasons and various hours of day are considered. Latitude distribution of f_0F_2 in years of high and low activities is compared. It is found that in the years of very high solar activity, geographic distribution of f_0F_2 has the greatest straggling. Some asymmetry was discovered between the northern and southern hemispheres. As specific features of geographic distribution of f_0F_2 in the years of very high solar activity, the author notes the increase of an additional

✓B

Card 1/2

Some peculiarities in geographic distribution ...

S/035/61/000/010/023/034
A001/A101

maximum in the region of 60-80° n.l. declination and maintenance of distribution with a minimum on the magnetic equator during a greater part of the day. There are 6 references.

T. Kerblay

[Abstracter's note: Complete translation]

✓B

Card 2/2

9,9130

S/169/62/000/008/083/090
EO32/E114

AUTHOR: Kerblay, T.S.

TITLE: Irregularities exhibited by the sporadic E-layer and
their use in radio forecasting

PERIODICAL: Referativnyy zhurnal, Geofizika, no.8, 1962, 26,
abstract 8 G 200. (Tr. In-ta zemn. magn. ionosfery i
rasprostr. radiovoln. AN SSSR, no.19(29), 1961, 96-112).

TEXT: The main features of the sporadic E-layer are discussed.
E_s-layer irregularities are described, namely, the diurnal and
seasonal variations and the geographic distribution. The dependence
of the critical frequency of the layer on solar activity is
analysed and it is shown that it may be due to changes in the
absorption within the solar cycle. Methods of improving E_s ✓
forecasting are noted.

[Abstractor's note: Complete translation.]

Card 1/1

9,9110

44527
S/831/62/000/010/006/013
EO32/E314

AUTHOR: Kerblay, T.S.TITLE: Variability in the characteristics of the E_s layerSOURCE: Ionomfernnyye issledovaniya. Sbornik statey, no. 10.
V razdel programmy NGG (ionosfera) Mezhdunar. geofiz.
kom. AN SSSR. Moscow, Izd-vo AN SSSR, 1962. 48 - 57

TEXT: This paper reports an analysis of the variability in the limiting frequencies and blanketing frequencies of the E_s layers, based on IGY data for nine stations, available at the World IGY Data Centre. Distribution curves were plotted in each case for f_oE_s (type c, f, f, h, r, a and q). The average values at the nine stations (Tula, Fairbanks, Dickson, Salekhard, Adak, Alma-Ata, Chiklayo, Johannesburg and Capetown) for f_o (median; Mo's) and the deciles σ₁₀ and σ₉₀ were found to be 4.0, 21, 44 (type c), 4.0, 32, 51 (type f), 3.6, 39, 65 (type f), 4.2, 20, 53 (type h), 4.1, 30, 40 (type r) and 4.7, 39, 57 (type a). In the case of type q results, the data were only available for Chiklayo (7.2, 40, 50). The corresponding results for the blanketing frequency

Card 1/2

S/831/62/000/010/006/013
E032/E31⁴

Variability in

f_b (median) at these stations were (3.5, 24, 26), (3.0, 29, 39), (2.3, 29, 49), (3.6, 24, 21), (3.3, 29, 33), (3.0, 28, 37) and (3.7, 30, 33; Chiklayo). The data indicate that there are considerable differences in the variability of $f_o^E_s$ and $f_b^E_s$.

of various types of the sporadic layer. In many cases, the great variability in f_o is accompanied by a similar effect in f_b

(e.g. in the case of type f), i.e. both the critical frequencies and the blanketing frequencies for a sporadic layer of a given type may be subject to considerable variations. In other cases, the great variability in f_o is accompanied by a slight variability

in f_b (e.g. type c). This suggests that the blanketing frequencies for this type of layer are relatively stable and the critical frequencies may reach quite high values, while the E_s is, as a rule, transparent at high frequencies. These data may, to some extent, be used as a basis for determining the MUF for reflections from the sporadic E-layer. There are 2 figures and 3 tables.

Card 2/2

7/3/13

S/203/62/002/003/010/021
I023/I250AUTHOR: Kerblay, T.S.TITLE: Maximum frequencies for oblique incidence for two types
of E_g

PERIODICAL: Geomagnetizm i Aeronomiya, v.2, no.3, 1962, 489-494

TEXT: Because of absence of experimental data on the maximum frequencies of radiowaves reflected from E_g , they were calculated for different models of the layer. Two models were considered: a thin layer and a layer with a high gradient of ionization. Formulas for the calculation of the reflection coefficient are given for both models. The dependence of the reflection coefficient p on the frequency for different incidence angles (0 to 80°) is presented graphically for both models. The reflection coefficient is always larger for an oblique than for a vertical incidence. For both models, the rate of decrease of p with increasing frequency diminishes the larger the incidence angles. The maximum usable frequency (muf) for the E_g layer for oblique incidence depends very strongly on the radiation

Card 1/2

S/203/62/002/003/010/021
I023/I250

Maximum frequencies for...

intensity and the sensitivity of the receiving apparatus. The mifs for different incidence angles (0 to 80°) when reflection coefficients are 0.01 and 0.05 are calculated. Absorption in the D layer and the frequency dependence of the transmitter power and the gain of the transmitting and receiving antennas are neglected. There are 2 tables, 3 figures, 4 references.

Card 2/2

9.9110

43160
S/203/62/002/003/011/021
I023/I250

AUTHOR: Kerblay, T.S.

TITLE: Some statistical results on different types of the E_s layer

PERIODICAL: Geomagnetism i Aeronomiya, v.2, no.3, 1962, 495-501

TEXT: The diurnal variations of the probability of appearance of $f_o E_s$ and $f_b E_s$ larger than 3 Mc/s for each type of E_s are given for different seasons. Data from 25 stations, with latitudes distributed almost evenly, collected during the IGY, were used for the analysis. The following probabilities were calculated:

1) probability of appearance of a given type of E_s with $f_o E_s > 3 \text{ Mc/s}$ (in % of the total number of ionospheric observations).

2) probability of appearance of a given type of E_s with $f_o E_s > 3 \text{ Mc/s}$ in % of the number of E_s observations)

3) probability of appearance of a screening E_s of a given type with $f_b E_s > 3 \text{ Mc/s}$ (in % of the number of observations).

The diurnal variations and the distribution of different types of E_s

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S/203/62/002/003/011/021
I023/I250

Some statistical results...

depend on the latitude. In the polar regions the probability of appearance of the types a, c, h, f and l of E_s is very small. The probability of appearance of the types c, h, f, l in the aurora region is small. The characteristic types for this region, a and r, are observed. The probability of appearance of the types c, h, f and l in the medium-latitude region is high. The main types in the near-equatorial region are c, h, f, l and sometimes q. The equatorial region is characterized by a strong q-type layer in the day time. A superficial investigation of the seasonal changes in the variations of the different types of the E_s layer indicates an asymmetry between the southern and northern hemispheres. An investigation based on data from station pairs with equal geographic latitudes or inclinations confirms this asymmetry. In the day time, during summer, and in southern hemisphere also during winter, the reflection probability from an E_s layer of c-type is large (larger than 50% in the latitude range from near-equatorial to the aurora regions. Calculations show that for a distance of 2000 km in the range of 20° to 60°

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I023/I250

Some statistical results...

the probability of maintaining radio-communication by reflection from E_s for frequencies up to 15 Mc/s is ~ 80% during day time in the course of summer. The E_s layers of f-type have a probability of appearance of 50-70% during the night. The f-type layer is characterized by long durations: 2 hrs and more. There are 2 tables, 3 figures, 10 references.

ASSOCIATION: Institut zemnogo magnetizma, ionosfery i rasprostraneniya radiowoln Akademii nauk SSSR (Institute of Terrestrial Magnetism, Ionosphere and Radiowave Propagation, Academy of Sciences USSR)

SUBMITTED: February 16, 1962

Card 3/3

KERBLAY, T.S.

Effect of horizontal gradients of electron concentration in the ionosphere on the magnitude of the maximum applicable frequency.
Geomag. i aer. 3 no.4:772-775 Jl-Ag '63. (MIRA 16:11)

1. Institut zemnogo magnetizma, ionosfery i rasprostraneniya radiovoln AN SSSR.

ACCESSION NR: AP4013139

8/0203/64/004/001/0061/0066

AUTHORS: Kerblay, T. S.; Voloshinova, Z. V.

TITLE: Determining the slopes of surfaces having equal electron concentrations in the ionosphere from data on the distribution of ionization with height

SOURCE: Geomagnetism i aeronomiya, v. 4, no. 1, 1964, 61-66

TOPIC TAGS: ionosphere, electron concentration, ionization distribution, $N(h)$ profile

ABSTRACT: The authors have investigated slopes of equal electron concentration arising from differences in heights of equal density distribution (h_{N_c}) at different latitudes through differences in illumination and because of latitudinal distribution of h_{N_c} . In the first case a definite diurnal course in slope angle was observed according to changes in h_{N_c} . Negative slope angles of $2\text{--}3^\circ$ were observed as the sun rose. Negative values of equal value characterized the evening hours. In the second case (latitudinal variations in h_{N_c}), the slope angle reached 5° .

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APPROVED FOR RELEASE: 06/13/2000

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ACCESSION NR: AP4013139

Computations of slope angles were made from data on $N(h)$ profiles at a number of stations in different latitudes and from the world map for h_m , y_m . It was found that the map gives much smaller absolute values than the data on $N(h)$ profiles for individual days, but the times of appearance and the direction of slope are in agreement. The authors conclude that maps of h_m , y_m , replotted to maps of h_{N_c} , may be used to determine the effect of these equal-concentration slopes on the propagation of short waves. Orig. art. has: 3 figures and 2 tables.

ASSOCIATION: Institut zemnogo magnetizma, ionosferny i rasprostraneniya radiovoln AN SSSR (Institute of Terrestrial Magnetism, the Ionosphere, and Propagation of Radio Waves AN SSSR)

SUBMITTED: 22May63

DATE ACQ: 02Mar64

ENCL: 00 0

SUB CODE: ES

NO REF Sov: 004

OTHER: 002

Card 2/2

BR

ACCESSION NR: AP4013149

8/0203/64/004/001/0179/0180

AUTHOR: Kerblay, T. S.

TITLE: Limiting frequencies reflected from the thin layer E_s at oblique incidence

SOURCE: Geomagnetizm i aeronomiya, v. 4, no. 1, 1964, 179-180

TOPIC TAGS: ionosphere, E_s layer, radiowave propagation, reflection coefficient

ABSTRACT: Studies of ionospheric structure by rockets have shown that the thin layer is a suitable model for E_s type layers. Using this model, effective values of the maximal limiting frequency for the minimum reflection coefficient $\rho_{\min} = 0.01$ are computed for various angles of incidence (0° - 80°) on the layer. Four typical cases are considered for several characteristic values of the parameters ξ and f_{\max} . The quantity 2ξ is the half-thickness of the layer, i.e., the thickness in which the electron concentration $N = \frac{1}{2}N_{\max}$, and f_{\max} is the frequency corresponding to the maximal electron concentration of the thin layer. The cases selected are $f_{\max} = 3.0$ Mc, $\xi = 100$ m and 200 m, and $f_{\max} = 5.0$ Mc, $\xi = 200$ m and

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ACCESSION NR: AP4013149

1000 m. The change of the reflection coefficient with frequency for the various incidence angles is shown for the first case. It is found that the fractional increase of limiting frequency with increasing incidence angle is essentially the same for all four cases. The fractional increase is somewhat larger than that for the normal E layer with the same increase of incidence angle. Orig. art. has: 8 equations, 1 diagram, and 2 tables.

ASSOCIATION: Institut zemnovo magnetizma, ionosfery i rasprostraneniya radiovoln
AN SSSR (Institute of Terrestrial Magnetism, Ionosphere, and Radio Wave Propagation,
AN SSSR)

SUBMITTED: 31Aug63

DATE ACQ: 02Mar64

ENCL: 00

SUB CODE: PH

NO REF Sov: 003

OTHER: 001

Card 2/2

VASIL'YEVA, T.N.; KERBLAY, T.S.

Various types of dependence of f_{F2} on solar activity. Geomag. i aer.
4 no.5:861-865 S-0 '64. (MIRA 17:11)

1. Institut zemnogo magnetizma, ionosfery i rasprostraneniya radio-
voln AN SSSR.

FOR Kegbulay, T. S., Kovalevskaya, Ye. M.

THE INSTITUTE OF ELECTROPHYSICS
OF THE ACADEMY OF SCIENCES OF THE USSR

RECEIVED BY

TOPIC: Ionosphere, radiowave influence - ionosphere, air ion concentration,

1 document, 2 figures and 3 tables.

ANALYSIS: Institut zemnogo magnetizma, ionosfery* i rasprostraneniya radiovoln
v SSSR (Institute of Terrestrial Magnetism, the Ionosphere and Radiowave Propaga-
tion, AN SSSR)

SUBMITTED: 28Apr64

ENCL: 00

SUB CODE: ES

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OTHER: 000

Scattering

Card 2/2

L 2883-66 EWT(d)/FBD/FSS-2/EWT(1)/EPA(sp)-2/EEC(k)-2 AST/RB/08/GM/HG-4

ACCESSION NR: AT5023588

IR/0000/65/000/000/0220/0227

AUTHOR: Barbasov, F. I.; Kerblay, T. S.; Kovalevskaya, Ye. M.; Lyakhova, L. I.

TITLE: Characteristics of short-wave radio communication with spaceships. 4/31

SOURCE: Vsesoyuznaya konferentsiya po fizike kosmicheskogo prostranstva. Moscow, 1965. Issledovaniya kosmicheskogo prostranstva (Space research); trudy konferentsii. Moscow, Izd-vo Nauka, 1965, 220-227. 8

TOPIC TAGS: radio communication, spacecraft communication, radio wave propagation

ABSTRACT: Optimum frequencies for communication between distant points in space are studied under the assumption of an ionosphere of a spherically stratified structure with parameters that are uniform within the limits of a single discontinuity. The F2 layer is considered the basic reflecting layer. Data on the reception of signals from transmitters carried by the Vostok spaceships operating at about 20 Mc are analyzed. In most cases, communication was possible at 20 Mc, even though it was in excess of the standard MUF. To determine signal paths under real conditions, an analysis was made of the deviation of calculated MUF values from the actual radio communication frequencies. It was found that the deviation is essentially dependent on the hour of the day. When the receiving point was in the illuminated hemisphere.

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ACCESSION NR: AT5023588

i.e., when the MUF at a control point nearest the receiving point was ≥ 20 Mc but lower near the spaceship — the probability of communication was considerably higher than when the receiving point was not illuminated. The ability to communicate with the Vostok spaceships at a frequency exceeding the standard MUF was attributed to anomalous propagation of radio waves. Signal paths, including reflection from the Es layer, play a significant role in spaceship communication. Reflections from the Es layer in the region nearest the receiving point and propagation along ricochetting paths can appreciably increase the upper limit of short-wave communication with spaceships located near the maximum of the F2 layer. It is concluded that when a spaceship is located below the maximum of the F2 layer, in addition to radio waves reflected from the F2 layer, waves of higher frequency can propagate along ordinary paths at the expense of other propagation paths. An important role in the propagation of frequencies higher than the standard MUF is played by the sporadic ionization in the F2 layer and by the presence of horizontal ionization gradients. Orig. art. has: 6 figures and 2 tables.

[JR]

ASSOCIATION: none

SUBMITTED: 02Sep65

ENCL: 00

SUB CODE: ESEC

NO REF SOV: 005

OTHER: 005

ATD PRESS: 4109

Card 2/2

L 33291-66 EWT(1) GW

ACC NR: AP6011701

SOURCE CODE: UR/0203/66/006/002/0322/0326

46
45
B

AUTHOR: Kerblay, T. S.

ORG: Institute of Terrestrial Magnetism, The Ionosphere, and Radio-Wave Propagation,
AN SSSR (Institut zemnogo magnetizma, ionosfery i rasprostraneniya radiovoln AN SSSR)

TITLE: Variations of the maximal electron concentration of the F2 layer with solar activity

SOURCE: Geomagnetizm i aeronomiya, v. 6, no. 2, 1966, 322-326

12

TOPIC TAGS: F layer, upper atmosphere, solar activity

ABSTRACT: The author examines the cyclic changes of the parameters of the upper atmosphere and of ionizing radiation which can be responsible for a change of the maximal electron concentration N_m with the cycle. The examination is carried out on the assumption of the simplest type of equation of ionization balance in the region of the maximum of the F2 layer without consideration of the diffusion term. The results of the study show that the forms of the dependence of the maximal electron concentration on the relative sunspot number, $N_m(R)$, including the effect of restriction observed under daytime conditions that were obtained for middle latitudes, can be explained by the changes in the parameters above the upper atmosphere following from corresponding changes of temperature and also by changes of solar ionizing radiation. The calculations derived in this study yield only an approximate estimation of the changes of N_m . The calculations showed that the temperature is a quite

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UDC: 550.388.2

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ACC NR: AP6011701

important parameter, even small changes of which quite substantially affect the altitude distribution of individual gas components. The current concepts concerning temperature changes with the solar cycle are still rather imperfect, for example, there is no information on seasonal temperature variations which, evidently, should exist especially at middle and high latitudes if a diurnal variation of temperature depending upon illumination exists. A further refinement of the information on the temperature of the upper atmosphere will permit more accurate estimates of the variations of the maximal electron concentration of the F2 layer with solar activity. The author thanks G. S. Ivanov-Kholodnyy for his beneficial discussion of the problems associated with this study. Orig. art. has: 4 tables and 1 figure.

SUB CODE: 04 / SUBM DATE: 09Feb65 / ORIG REF: 003 / OTH REF: 006

Card 2/2